the inner ſurface, without a non-electric conductor: but air reſiſts its motion; for being itſelf an electric *per ſe*, it does not attract it, having already its quantity. So the air never draws off an electric atmoſphere from any body, but in proportion to the non-electrics mix'd with it: it rather keeps ſuch an atmoſphere confin'd, which from the mutual repulſion of its particles, tends to diſſipation, and would immediately diſſipate *in vacuo*.—And thus the experiment of the feather incloſed in a glaſs veſſel hermetically ſealed, but moving on the approach of the rubbed tube, is explained: When an additional quantity of the electrical fluid is applied to the ſide of the veſſel by the atmoſphere of the tube, a quantity is repelled and driven out of the inner ſurface of that ſide into the veſſel, and there affects the feather, returning again into its pores, when the tube with its atmoſphere is withdrawn; not that the particles of that atmoſphere did themſelves paſs through the glaſs to the feather.——And every other appearance I have yet ſeen, in which glaſs and electricity are concern'd, are, I think, explain'd with equal eaſe by the ſame hypotheſis. Yet, perhaps, it may not be a true one, and I ſhall be obliged to him that affords me a better.

35. Thus I take the difference between non electrics and glaſs, an electric *per ſe*, to conſiſt in theſe two particulars. 1ſt, That a non-electric eaſily ſuffers a change in the quantity of the electrical fluid it contains. You may leſſen its whole quantity by drawing out a part, which the whole body will again reſume; but of glaſs you can only leſſen the quantity contain'd in one of its ſurfaces; and not that, but by ſupplying an equal quantity at the ſame time to the other ſurface; ſo that the whole glaſs may always have the ſame quantity in the two ſurfaces, their two different quantities being added together. And this can only be done in glaſs that is thin; beyond a certain thickneſs we have yet no power that can make this change. And, 2dly, that the electrical fire freely removes from place to place, in and through the ſubſtance of a non-electric, but not ſo through the ſubſtance of glaſs. If you offer a quantity to one end of a long rod of metal, it receives it, and when it enters, every particle that was before in the rod, puſhes its neighbour quite to the further end, where the overplus is diſcharg'd; and this inſtantaneouſly where the rod is part of the circle in the experiment of the ſhock. But glaſs, from the ſmallneſs of its pores, or ſtronger attraction of what it contains, refuſes to admit ſo free a motion; a glaſs rod will not conduct a ſhock, nor will the thinneſt glaſs ſuffer any particle entring one of its ſurfaces to paſs thro' to the other.

36. Hence we ſee the impoſſibility of ſucceſs, in the experiments propos'd, to draw out the effluvial virtues of a non-electric, as cinnamon for inſtance, and mixing them with the electrical fluid, to convey them with that into the

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